Cameron et al. (1) can only show the problems of an old approach and the potential of the new. Presently, a consensus is emerging that the central pressure waveform generated by the method we have described (2) corresponds well to measured aortic pressure under control conditions and during different perturbations in individual patients (7–9).

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REPLY

In their letter, O'Rourke and Jiang suggest we downplay the information carried by the arterial pressure waveform. We find this a surprising interpretation of our work (1), which in fact discusses aortic pressure augmentation as well as radial artery applanation techniques in a broad context and which illustrates a number of important general considerations of assessment of pressure augmentation.

Our study of 262 treated hypertensive patients examined factors contributing to aortic pressure augmentation as assessed using the PWV Medical Blood Pressure Analysis System (PWV Medical, Sydney, Australia), which uses a generalized transfer function and radial artery tonometry. We found derived indexes of aortic pressure augmentation to be significantly influenced by age, gender, height and heart rate, but not by the different antihypertensive agents used. To our knowledge, this study was the first to use such devices, and we were particularly interested in the practical advantages, if any, of transfer function approaches in comparison to the more widely reported carotid artery applanation techniques. It must be remembered that the use of transfer function techniques creates an extra level of complexity that needs further cautious evaluation before use in inferring central arterial variables.

O'Rourke et al. suggest our analysis is limited by a lack of central pressure measurements; surely this is exactly the benefit proposed for any useful noninvasive device. If central pressures are available, radial applanation becomes superfluous. Similarly, we reject the assertion that the so-called "wide scatter" of blood pressure values can be used to infer a potential for improvement in measurement of variables for which, noninvasively, no absolute value exists for comparison. Comparison of derived central and brachial mean pressures was as described; however, because this is the device's in-built basis for calibration and therefore of derived central blood pressure, it seems strange that this is called into question by these commentators.

It is premature and unsubstantiated to suggest the evolution of any "consensus" regarding this type of method. Evaluation of the validity of a generalized arterial transfer function, which, we stress, was not the objective of the current study, requires simultaneous invasive and noninvasive assessment of blood pressure. To date, there has been inadequate published work on this topic, and it should be noted that reports of invasive studies, which are sometimes used to justify noninvasive transfer function techniques, have been on small numbers and in select patient groups (2,3). In particular, there appears to be no such prospective evaluation of the PWV system, and we await with great interest the publication of the data base referred to in Dr. O'Rourke's letter.

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Beta-Blockers—A Forgotten Antiventricular Tachy-Fibrillation Drug Class?

I have two questions regarding the recent study by Pires et al. (1). Seventy-two percent of these patients were on antiarrhythmic therapy, and is it not possible that proarrhythmic effects of these drugs instituted the terminal episode of cardiac arrest, particularly polymorphic ventricular tachy-fibrillation episodes. Second, would